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ON A CASE WITH A TUMOUR IN EACH ORBIT.
DEATH. NECROPSY.

BY

E. TREACHER COLLINS,

Curator of the Museum.

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ON A CASE WITH A TUMOUR IN EACH ORBIT. DEATH.
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THE Case reported in this paper was under the care of Mr. Gunn at the Moorfields Hospital, who has permitted me to publish it and to make use of his clinical notes.

It presents several points of interest. First, the presence of separate tumours in the two orbits. Second, the absence of any general symptoms until a short time before death, while most of the organs of the body had deposits in them. Third, the extensive masses of growth in the abdomen around those vessels which go to form the umbilical cord. Fourth, the absence of any enlargement of the lymphatic glands in the external parts, such as the neck, axilla, and groins, and the extensive involvement of those in the abdomen and thorax.

M. Gayet, in a paper entitled "Sur les tumeurs symétriques des deux orbites et leur caractère symptomatique," records a case of a man aged 70 who had tumours in both orbits and who died of pleurisy. On microscopical examination the tumours proved to be lymphomata. He has also collected four others of apparently a similar nature to his, recorded by Otto Becker and J. Arnold, Leber, Osterwald and Reymond. In Leber's and Osterwald's cases there was found to be a large increase in the number of the white corpuscles of the blood. Leber's case exhibited symptoms of growths in the liver, spleen, and kidney. In Osterwald's a post-mortem examination was made, and tumours of the dura mater, brain, pleura, and medullary tissue of the bone, &c., were discovered. In Gayet's own case the post-mortem examination was incomplete, but from the nature of the pleural lesions and

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the way in which the patient succumbed, he infers that there was a similar generalisation of the disease.

Becker and Reymond's cases were operated on apparently successfully. Becker took the tumours to be hypertrophied lachrymal glands and removed them. Two years later there had been no recurrence.

At a meeting of the Ophthalmological Society in June, 1888, Mr. Sileock showed a girl *æt.* 9 with tumours in both orbits, which he had incised and partly removed. The microscopical appearances of the growths were described as those of round-celled sarcoma. He has kindly allowed me to add the following further account of this case:—

She was operated on on May 24th, 1888. After this the eyes continued gradually to become more proptosed. The left cornea ulcerated and the eye suppurated. It was excised on August 10th, 1888, for the relief of pain. Her general health continued good, and no secondary growths were observed up to the time of her discharge from the hospital on December 7th, 1888. On October 11th, 1891, Dr. A. E. Bucknill writes: "I have seen Eliza G. to-day. Her general health is good, very much improved to what it was when I first saw her, she is fairly rosy, fat, and growing well, and not so morose as she was. The remaining eye is protruded from the socket, so that the lids when closed do not cover the eyeball by perhaps $\frac{1}{8}$ th inch. I do not think this more than it was, if so, but to a very slight extent; she does not suffer from headache or any other cerebral symptoms."

Maud B., *æt.* $1\frac{3}{4}$ years, was brought as an out-patient to the Moorfields Hospital on January 9th, 1889, on account of the prominence and displacement of her left eye. This the parents stated they had noticed for the first time three weeks previously.

The child did not appear to suffer any pain, and seemed to see quite well with both eyes. The father and mother were healthy; there was no history of consumption or of other diseases in their families. They had had five children.

The first was born dead.

The second was born at eight months, and only lived three weeks.

The third, aged 6 years, was strong and healthy.

The fourth was the patient.

The fifth, aged 7 months, was healthy.

Looked at from the front, the left eye was seen to be pushed forwards and somewhat outwards and downwards. The lower lid just reached the lower margin of the cornea. When the child kept the eye open naturally, the upper lid covered the upper margin of the cornea for about 1 mm.

In the right eye the upper and lower corneal margins were well covered by the lids. The palpebral fissure was obviously longer in the left eye than in the right, but accurate measurements were impossible. The ocular movements were good. The pupils were equal in size, and active to light. The tension was normal in both. There were some distended veins on the conjunctiva in the left. Upwards and inwards, extending towards the corresponding angle of the orbit, was a smooth subconjunctival swelling, of a reddish-purple colour. It apparently got thicker above, and at its broadest visible part was about the breadth of a sixpence. When examined from behind and above, while the child looked straight forwards, the upper half of the left cornea could be seen in its whole extent.

The father states that the left eye is not quite closed when she is asleep. Part of the posterior surface of the globe could be felt by the finger.

The fundus of the eye was apparently normal, but examination was very difficult. The veins seemed rather full, but not engorged.

January 23rd. The prominence seemed somewhat less, otherwise *in statu quo*. On ophthalmoscopic examination under a mydriatic, the fundus was found to be normal.

February 6th. The globe was not so prominent. The subconjunctival growth was somewhat lighter in colour, and flatter. The father said the child's general health was not so good as formerly. She seemed languid at times, and her appetite was bad. No abnormality of the fundus was found. The vision of the proptosed eye seemed good.

She was admitted into the hospital on March 13th, when

the mother stated that for about the last ten days she had complained of pain in the stomach, and on passing water. She had no difficulty in passing water, but apparently it caused her pain. She had also been sick four times, and was unable to take food. Her abdomen had become swollen and hard. There was now also a swelling in the right orbit, displacing the eye downwards, similar to that in the left.

On March 15th her condition was worse; there was more distension of the abdomen. Her breathing became much embarrassed. She constantly cried with pain, and could take no food.

She died on March 17th.

Post-mortem examination made twenty-one hours after death. Body well nourished, rigor mortis marked. Abdomen much distended, measuring at the level of the umbilicus, 22 inches in circumference; at the ensiform cartilage, $22\frac{1}{2}$ inches; and midway between these two points, $23\frac{1}{2}$ inches. The outline of the liver can be plainly felt through the abdominal wall; it appears enlarged. From the notch between the right and left lobes a hard mass is felt projecting downwards. Hard masses are likewise felt through the abdominal wall, starting from the umbilicus and passing down to the pubes, and to the iliac fossa on each side. Both eyeballs are proptosed, and a soft mass is felt at the posterior part of each orbit. The fornix of the conjunctiva in both eyes at the upper and lower parts is of a mottled-purple colour.

Thorax.—There is considerable adhesion of the pericardium to the chest walls. There are no pleuritic adhesions. Each pleura contains a large quantity of turbid, straw-coloured fluid. Running up the anterior mediastinum, and extending laterally on both sides at the anterior and upper border of the diaphragm, is a firm nodular mass. The pericardium is much thickened; its inner surface is smooth, and apparently healthy.

Heart.—At the apex of the left ventricle are two firm masses of yellowish colour, the size of marbles. The lining membrane of the right auricle and ventricle, and the tricuspid valve, appear healthy. Forming a projection in the wall of the right ventricle, just below the orifice of the pulmonary artery, is a rounded mass, which considerably constricts its lumen. The margins of the mitral valves are rough and granular. The two

masses at the apex of the heart do not extend into the cavity of the left ventricle. On section they appear as yellowish-white circular bodies, sharply defined from the red muscular tissue.

Lungs are both collapsed and firm, erepitating on pressure only at the margins. On the surface of the lower lobe of the left are two or three scattered nodules the size of hemp seeds. In the right these nodules are more numerous; there is a cluster of them at the apex.

The bronchial glands are enlarged and firm, on section they are of a shining yellow colour.

Abdomen.—Attached to the umbilicus and passing down from it on the inner surface of the abdominal wall, is a firm nodulated mass expanding as it passes down, and arranged in the form of three thick cords. The peritoneum covering the mass is of a mottled colour having various sized purplish patches in it. On section of this mass there is seen in the centre of each cord a white spot, which is the cut end of a fibrous band running through each of them (? obliterated hypogastric arteries and urachus).

Passing along the free margin of the suspensory ligament of the liver is another thickened cord surrounding probably the umbilical vein. The peritoneum lining the abdominal walls has numerous patches and spots of hæmorrhage in it, and is infiltrated with firm nodules of various sizes, some as large as a walnut. The transverse meso-colon, the small omentum, and the gastro-splenic omentum are especially full of growths. There is no fluid in the peritoneal cavity.

Liver is somewhat enlarged, no growths are found in it. There is a considerable mass of growth surrounding the ductus venosus right up to its junction with the inferior cava.

Spleen has several scattered nodules in it of a shining white colour, sharply defined from the surrounding gland tissue.

Kidneys.—Left enlarged about double the size of the right. Pelvis and calices much dilated. An ill-defined hard nodule at the centre of the outer border, and another at the lower angle. Pelvis of right also dilated, it contains one hard nodule.

Large Intestines along their whole length are infiltrated with numerous nodules of growth, and present a peculiar beaded appearance. The vermiform appendix is thickened and very hard.

Uterus is enlarged and infiltrated with nodules of new growth. It rises some distance above the bladder well into the hypogastric region. It and its appendages are firmly fixed. Its round ligaments pass forwards as thick cords.

Cranial Cavity.—*Brain and membranes* are apparently healthy, except at the sphenoidal fissures, and across the lesser wings of the sphenoid bone, where the dura mater is thickened and adherent.

Orbits.—The periosteum of the left is adherent to the roof. Beneath the levator palpebræ and superior rectus muscles, surrounding the optic nerve above, and on its outer and inner sides, and extending forwards intimately adherent to the sclerotic though not perforating it, is a hard mass of new growth. Anteriorly it is only covered by the conjunctiva. It is quite separate from the lachrymal gland, which appears healthy. On the inner side of the orbit below, and outside the superior oblique muscle is a separate firm mass. On section the new growth is of a mottled red and pale yellow colour.

The right orbit, only partly opened, contains a growth similar to that described in the left, along its inner wall.

The optic nerves and commissures appear healthy. The lesser wings of the sphenoid bone are soft, of a reddish colour, and break down very easily when touched with the forceps.

Microscopical Appearances.—Sections of the new growth around the ductus venosus show it consists of a number of small nucleated cells of irregular and various shapes closely packed together. In some places delicate strands of fibrous tissue are seen passing between. The cells in parts show a tendency to an arrangement in parallel rows.

Sections of the growth from the orbit present a very similar structure. The cells are mostly round in parts, arranged in masses with hardly any inter-cellular substance, in others the strands, of a delicate fibrous stroma, run in parallel lines with rows of cells between them.

The optic nerve and commissure do not show any cellular infiltration.

Portion of the lesser wings of the sphenoid bone softened with nitric acid, show numerous cells similar to those in the new growths between the trabeculæ of the bone.

Contrasting the above case with those already referred to, it will be seen that it resembles them in having separate tumours in the two orbits; also in the microscopical characters of the growths, which were those of lymphatic gland tissue. Like Gayet's and Osterwald's cases it ended fatally, and like them and Leber's it had tumours of a similar character in other organs.

Unfortunately no microscopical examination was made of the blood to see if the number of its white corpuscles was increased.

The ages in this group of cases presents considerable diversity, thus, Gayet's was 70; Reymond's, 57; Leber's, 48; Becker and Arnold's, 33; Silcock's, 9; Osterwald's, $4\frac{1}{2}$; and the present case, youngest of all, $1\frac{3}{4}$.

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